

# 2008



## *DNR Division of Forestry Annual Report*





# Invasive Species

*The Department of Natural Resources' Division of Forestry works in partnership to protect and sustainably manage Wisconsin's forests to supply a wide range of ecological, economic and social benefits for present and future generations. We face many challenges, and this year was no exception.*

*We work hard to prioritize the many issues and opportunities that come our way and to develop smart strategies to serve the people and their resource every day. As we embrace the many challenges of a rapidly changing global context for sustainable forestry – including a changing economy, changing land use, invasive species, and climate change – we realize more than ever that we can best meet our mission by working with others who are equally committed to our common goals. As you will read in these pages, our partnerships were vital to what we accomplished in the issues highlighted in this annual report for 2008, as well as others, and they will remain so in 2009 and beyond. Working together we can assure that our forests are providing a full array of public benefits for generations to come.*

*Paul DeLong*

Paul DeLong  
Chief State Forester

## The Issue

Non-native invasive insects and diseases threaten many of our native forest tree species because our trees have no natural resistance to these invaders. Likewise, non-native invasive plants have become established in some of our forests, especially in the south, and compete against the native flora, thereby decreasing native wildflowers, shrubs and the natural regeneration of trees.



The Emerald Ash Borer (EAB), a non-native insect of particular concern, was found in the little town of Newburg, WI (Ozaukee County) in summer of 2008. Wisconsin's urban and rural ash trees are at risk of dying from infestation by EAB, which includes over 5 million urban trees and over 764 million rural trees.

## The Strategies

**Forestry Best Management Practices (BMP's) for Invasive Species** - The Wisconsin Council on Forestry formed an Advisory Committee consisting of forest resource professionals and landowners to develop a set of voluntary guidelines for a range of landowners and managers to limit the introduction and

spread of invasive species during basic forestry activities. This effort represents the first in the nation focused on a voluntary approach toward limiting the spread and impact of invasive species in the forest.



**EAB Response** - To prepare Wisconsin's citizens and urban and rural forests for the Emerald Ash Borer through a comprehensive multi-agency and partner program, EAB program partners (DNR, Department of Agriculture, Trade & Consumer Protection (DATCP), UW Extension and Research, USDA Forest Service and Animal Plant Health Inspection Service (APHIS) and numerous stakeholders) work together to develop and implement a proactive EAB management response. The EAB program includes experts from several professions including forest health protection, urban forestry, state forests and parks, wood marketing and utilization, forest assessment, waste and materials management, and communication and education.

Over 764 million  
rural ash trees  
are at risk of dying.

## The Accomplishments

### Invasive Species:

1. Drafted Forestry BMP's for invasive species. Targeted for acceptance by the Council on Forestry in early 2009. Education efforts are in process to assist the many stakeholders regarding BMP implementation. The process used for BMP development was an excellent example of DNR partnering with stakeholders to make Wisconsin forests more productive and healthy.
2. The process blueprint is being used to develop similar invasive species guidelines here in Wisconsin for other Forestry sponsored tracks including Recreation, Urban Forestry, and Transportation and Utility Right of Ways. Eventually this process will be used to model invasive BMP efforts across the northeastern United States.

### EAB Response:

1. When EAB was discovered in Wisconsin, state and federal agencies as well as universities cooperated in defining the limits of the infestation.
2. A variety of tools have been developed including:
  - The Wisconsin EAB Response Plan – signed by the Secretaries of DNR and DATCP
  - Silvicultural guidelines for woodland owners aimed at the management of rural forests
  - EAB "toolkit" - details information for communities on how to prepare for EAB
  - DATCP developed an emergency rule creating a voluntary firewood certification program
3. State and federal dollars have been redirected to support EAB surveys and assistance to communities to prepare for EAB. Ongoing statewide EAB surveillance surveys utilizing both destructive tree testing and insect traps will continue in 2009 and beyond.



# Wisconsin Communities Threatened by Emerald Ash Borer

## The Issue

Emerald Ash Borer (EAB) is an exotic invasive insect that kills ash trees. Since its discovery in Michigan in 2003, EAB has killed more than 30 million trees in 10 states and Canada. In July 2008, EAB was discovered in Wisconsin.

Wisconsin's urban forests, those public and private trees in Wisconsin's cities, villages and urban towns, have an estimated 26.9 million trees worth \$10.9 billion and provide millions of dollars of environmental services in carbon sequestration, energy conservation, air pollution absorption and storm water control. Statewide, 20% of all community trees are ash. EAB could destroy 5.2 million trees costing Wisconsin communities \$3 - \$4 billion for tree removal, disposal and replacement, and millions more in lost carbon storage, higher energy bills, greater water usage, reduced air quality, increased flooding and reduced property value.

To minimize the economic and environmental impact of EAB, Wisconsin communities must inventory their urban forest, develop plans to deal with and slow the spread of ash mortality, find methods and markets to utilize the destroyed trees and diversify their urban forests to prevent a future scourge from repeating this disaster.

## The Strategies

### Urban Forestry Grants:

These DNR grants provide local governments, tribes and nonprofit organizations 50:50 cost share for inventories, management plans, staff training, public awareness and operations.

**20 Million By 2020:** This is a private-public initiative introduced by the Wisconsin Urban Forestry Council to plant 20 million additional private and public trees in our communities and to care for the 27 million existing urban trees. The initiative seeks to create diverse, resilient urban forests that are a community's green infrastructure providing ecological, social and economic services.

**Outreach and Training:** In partnership with local, state and federal agencies and organizations, provide EAB information, training, tools, resources, networking, media releases, displays and presentations, and train others to provide EAB outreach which multiplies our investment.

## The Accomplishments

**Urban Forestry Grants:** Only 64% of the grant demand could be met with existing funding. Of the \$530,000 in grants that were awarded in 2008, 80% had an EAB component. These grants allowed Sparta to discover it had 50% ash not the average 20%, and to develop an EAB readiness plan, strategies to reduce the impact and public meetings to engage its citizens. Dane County piloted a countywide urban wood utilization program that can be used as a model for counties statewide. The Friends of Wehr Gardens in Milwaukee County brought 5 organizations together for a two-day event that attracted nearly 2,000 visitors with plans to extend it to 4 more communities. In all, 33 communities and nonprofits and thousands of residents are now better prepared for EAB.

**20 Million By 2020:** The initiative was introduced at the 2008 Wisconsin Annual Urban Forestry Conference.

Since then key partners such as the WI Natural Resources Foundation, WI Nursery Association, and WI Arborist Association have been engaged. The initiative spurred an urban forestry policy recommendation to fight climate change that was adopted by the Governor's Global Warming Task Force and published in their final report. The initiative is seeking to form public and private partnerships to increase its effectiveness and leverage private funding.

**Outreach and Training:** EAB highlighted the annual urban forestry conference, 13 statewide workshops and a wood utilization meeting, attracting over 1200 professionals. A biweekly e-newsletter, enhanced EAB Toolkit for Wisconsin Communities and web presence, new publications and local and regional presentations statewide provided ongoing contact. These efforts have resulted in more communities applying for grants or establishing EAB readiness plans on their own. Non-traditional groups such as the League of Wisconsin Municipalities and the American Public Works Association are requesting assistance, businesses are developing new partnerships and greater media coverage is improving public awareness and involvement in EAB early detection.

EAB could destroy  
5.2 million urban trees,  
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\$3 - 4 billion.



Top and middle photos show tree mortality from EAB in Ohio.



# Bioenergy and Climate Change



## The Issue

**Bioenergy:** Higher energy prices and incentives to produce renewable energy have increased the nationwide interest in bio-fuels, and increased demand for sources of biomass. The potential expansion of a wood-based bio-energy industry could benefit Wisconsin's economy by creating additional markets for forest products, creating jobs and reducing reliance on fossil fuels. However, concerns have been raised about sustainability and the environmental impacts of increased removal of woody biomass from Wisconsin's forests.

**Climate Change:** The role of the world's forests is critical when considering ways to address the rise in atmospheric carbon dioxide levels and potential climate change. Globally forests, both above ground and in the soil, store fifty percent more carbon than is in the atmosphere. Forests are better at storing carbon than any other land cover. Wisconsin's forests sequester approximately 8.2 mtCO<sub>2</sub>e (metric ton of CO<sub>2</sub> equivalents) annually which offsets about 6.6% of Wisconsin greenhouse gas emissions, and is equivalent to the amount of greenhouse gases emitted by about 499 million cars annually. It is therefore critically important to maintain, or preferably increase, Wisconsin's forestland base.

## The Strategies

The Division will partner with other governmental agencies, organizations, stakeholders and individuals to facilitate the development of an environmentally sustainable bioenergy industry and adaptation and mitigation strategies for climate change.

## The Accomplishments

**Woody Biomass Harvesting Guidelines:** In response to the anticipated increase in harvesting of woody biomass for energy, the Wisconsin Council on Forestry sponsored the development of biomass harvesting guidelines designed so that woody biomass extraction does not compromise the long-term sustainability or productivity of Wisconsin's forestland. The guidelines were completed in December 2008 and accepted by the Council pending DNR consultation with Wisconsin's tribes. The Council also stipulated that the guidelines will be reviewed in no more than three years. Wisconsin's Forestland Woody Biomass Harvesting Guidelines along with other relevant documents are available on the Wisconsin Council on Forestry's website: <http://council.wisconsin-forestry.org/biomass/>

**New demand for woody biomass could raise consumption in Wisconsin by 1.5 million dry tons, which is equivalent to adding a large kraft pulp mill.**

**Global Warming Task Force (GWTF):** The GWTF recommended over 50 policy recommendations in the utility, transportation, agriculture and forestry, and industry sectors, that will make Wisconsin a leader in addressing the significant challenges presented by climate change, substantially reduce Wisconsin's dependence on

fossil fuels and advance the state's energy independence objectives. The Division of Forestry participated in and supported the Agriculture and Forestry Work Group (AFWG) of the GWTF. The AFWG recommendations included policies which encourage landowners to sustainably manage their land including promoting such activities as afforestation and increased community tree planting. Details of the AGWF recommendations can be found

in the GWTF's final report located at: [http://dnr.wi.gov/environmentprotect/gtfgw/documents/Final\\_Report.pdf](http://dnr.wi.gov/environmentprotect/gtfgw/documents/Final_Report.pdf)

**Wisconsin Initiative on Climate Change Impacts (WICCI):** WICCI assesses and anticipates climate change impacts on specific Wisconsin natural resources, ecosystems and regions; evaluates potential effects on industry, agriculture, tourism and other human activities; and develops and recommends adaptation strategies that can be implemented by businesses, landowners, public health officials, municipalities, resource managers and other stakeholders. WICCI represents a partnership between the University of Wisconsin Nelson Institute, the Wisconsin Department of Natural Resources (DNR), and numerous other agencies and institutions. The focus of this effort is to develop adaptation strategies for WI to address climate change.

The Division of Forestry is leading the Forestry Working Group, which will focus research to application and provide information to policy and decision making bodies such as the Natural Resources Board. Furthermore, the results of this research can provide state specific information on applied adaptation strategies in the fields of silviculture, forest health, hydrology and forest genetics.



# Wildland Fire Suppression and Emergency Response

## The Issue

As forest fragmentation from human development continues, the wildland-urban interface is increasing in size and complexity. Fire prevention programs and outreach efforts, including the Firewise Community program, Community Wildfire Protection Plans, and Forest Fire Protection Grants program, are critical to protecting human life, property, and forest resources from forest fires. Personnel from local fire departments and the Division of Forestry's own Incident Management Teams are critical in preventing and managing wildland fires across the state. The Department's forest fire Incident Management Teams are increasingly being relied on for assistance in other emergencies, such as tornadoes and floods, for their ability to effectively bring an orderly response to the chaos of a broad range of natural disasters.

## The Strategies

**Wildfire Detection and Suppression:** Following detection from fire towers, air patrol and citizen reporting, Division staff respond to forest fires as soon as possible after their ignition. Dispatchers immediately and strategically place fire suppression resources to employ carefully developed tactics to suppress fire as quickly as possible and in a manner that minimizes danger to personnel, the public, and property.

**Communities and Wildfire:** The Division sponsors several programs to help communities and homeowners address the potential hazards of forest fires. The Firewise Community program recognizes communities that have developed and implemented strategies to improve their community's fire readiness. The Community Wildfire Protection Plans assist communities in assessing local fire hazards and identifying mitigation strategies to address those hazards.

### Forest Fire Protection (FFP) Grants Program:

Grants are provided through a 50/50 cost share with local fire departments and are used to fund wildland fire suppression equipment and protective clothing.

**Fire Department Training:** Experts within the Division offer wildland fire training to all 870 fire departments in the state.

**Burning Permit System:** Debris burning continues to be the primary cause of wildfires throughout Wisconsin, with most debris-caused wildfires started from a fire where a burning permit was not obtained. In an effort to increase permit compliance, and provide real-time response to changing fire conditions, the DNR began a telephone and internet system for issuing burning permits in 2008.

**Incident Management Teams (IMTs):** The Division supports and trains nine IMTs for forest fire management. Teams have been vital in managing wildland fires and emergency situations across Wisconsin.

## The Accomplishments

**2008 Fire Season:** The 2008 spring fire season began under drought conditions, which persisted over the northern half of Wisconsin throughout the spring and summer. In the southern half of the state, heavy rainfalls resulted in low fire levels throughout the season. Forestry personnel suppressed 821 fires burning 998 acres throughout Wisconsin. Suppression actions by the Division are estimated to have saved 219 structures, with only 31 structures lost over the course of the year.

**Communities and Wildfires:** A recent statewide assessment of wildfire hazards identified 574 Wisconsin communities (covering 42% of Wisconsin's land area) as a Community at Risk or a Community of Concern. Of these communities, 12 are in the process of completing a Community Wildfire Protection Plan, 24 have completed a hazard mitigation fuels project, and 26 have implemented a wildfire awareness project. In addition, 17 homeowner groups in identified communities were accepted into the Firewise Community program.

**Wisconsin Fire Departments – Forestry Partners:** The Division of Forestry partners with fire departments across the state to improve wildland fire readiness.

In 2008, Division employees trained over 2,000 firefighters in wildland fire suppression. The Forest Fire Protection grant program awarded \$879,677 to 266 fire departments to fund personnel protective equipment, forest fire training, and wildland fire suppression equipment.

### Statewide Burning Permit Expansion:

Under the new telephone and internet burning permit system, the number and percentage of forest fires caused by debris burns dropped significantly in 2008. The Division will continue to monitor the effectiveness and efficiencies of the new permit system.

**Incident Management Teams (IMTs):** In February 2008 the Wisconsin Rapids IMT became the first team in the state to complete the Complex Incident Management Course, the highest level of training offered to Wisconsin IMTs. In June 2008 the South Central Region IMT helped manage volunteers for the Sauk County floods. Over 13 communities were assisted by the IMT and over 1,000 volunteers worked on the effort. In addition, a DNR IMT assisted in organizing volunteers to assist in locating a missing person in the Black River Falls area in fall.

Housing development continues to move deeper into formerly rural areas, increasing the challenge of wildfire suppression efforts.





# Public and Private Forests



## The Issue

We need to provide for the multiple benefits from forests by balancing a diversity of both present and future needs. Wisconsin expects a lot from our 16 million acres of public and private forest land: clean air, clean water, recreational opportunities, wildlife habitat, visual beauty, forest products, economic growth and related jobs. We also realize that forests play a crucial role in storing carbon to help stabilize the world's climate. Wisconsin's forested land base provides \$20 billion in forest products and \$9.7 billion in forest-based recreation revenue annually with over 197,000 jobs in those two sectors. The amount of timber these valuable lands hold is ever increasing, with forest growth exceeding the amount harvested by 40%. Wisconsin's forests have a unique ability to maintain healthy forest ecosystems while providing traditional forest products and new products such as forest-based biofuels.

## The Strategies

**State-Owned Lands:** Develop a complete forest inventory of all state-owned lands and streamline the planning process used to determine the future uses of the land.

**County Forests:** Continue DNR's 80-year partnership with the 29 County Forests who own and manage over 2.4 million acres of public forest land.

**National Forests:** Partner with the USDA Forest Service to ensure the federal forests provide ecological, social and economic benefits to Wisconsin's citizens.

**Private Forests:** Develop effective outreach programs targeted at private woodland owners to increase the percentage of forest land managed sustainably.

**Forest Certification:** Continue and expand third party certification of State, County and private forest lands so these lands may provide certified forest products to Wisconsin's forest industries and provide assurance to the public that our forests are being well managed.

**Tribes:** Partner with the tribes on management issues of mutual interest.

## The Accomplishments

**State-Owned Lands:** Forestry staff evaluated over 356,000 acres of new inventory and updated another 138,500 acres, making 2008 the first time Wisconsin has had a complete inventory of its 1.5 million acres of state land. This data will allow more accurate, sustainable management including timber harvests that generated

\$9.6 million in 2008 harvest revenue to help our economy. The Department also moved to streamline its property master planning policies to guide management decisions for state land.

**County Forests:** DNR provided over 51,000 hours of assistance and over \$1.913 million in grant funding to support this critical program.

**National Forests:** Division staff coordinated with the U.S. Forest Service and other stakeholders through the Wisconsin Council on Forestry to advance new strategies on invasive species control, use of woody biomass, deer overabundance and a framework to assess forest sustainability.

**Private Forests:** The National Woodland Owner Survey was analyzed to identify trends in private woodland ownership. Results show that in Wisconsin the number of family forest owners has grown by 35% since 1996 to 352,000 and nearly 30% of them are over 65 year of age. Family forest owners own over 9 million acres (56%) of woodland in the state, lands that provide many benefits to all Wisconsin citizens. Wisconsin completed a companion study to the National Woodland Owner Survey that revealed the attitudes of woodland owners' offspring. Additional ideas to address the new and upcoming woodland owners were gathered in a Private Forestry Summit sponsored in partnership with the Wisconsin Woodland Owners Association. This information is currently being analyzed to develop effective communication and outreach tools focused on reaching these future woodland owners.

**Forest Certification:** Wisconsin's achievements developing a Lakes States forest certification economic hub highlight the success of our strategies. Forest Stewardship Council and American Tree Farm System recognition of the Managed Forest Law Certified Group creates the world's largest certification program for small private landowners, big news to paper and solid wood manufacturers alike. In respect to public land certification in

2008, DNR completed audits to triple the area of certified state-owned land, bringing in a million acres of State Parks, Wildlife Areas and other properties. The area of Wisconsin certified forests now exceeds 7 million acres total (45% of the state's forestland), establishing our state as a national leader in sustainable forestry.

**Tribes:** Division of Forestry consulted with the tribes on Wisconsin's Forestland Woody Biomass Harvesting Guidelines and the Invasive Species Best Management Practices.

The Managed Forest Law  
Certified Group creates the world's  
largest certification  
program for small private  
landowners.



# Forest Based Recreation

## The Issue

More people in Wisconsin want to use our forests for a wide range of recreation activities, including hunting, camping, motorized recreation, paddling, hiking and biking. Wisconsin's forests provide a large and diverse land base for recreation. Large areas of forests with public access provide opportunities for long linear trail networks, long stretches of rivers and networks of lakes not available on most private lands. As recreation demand continues to increase, the public debate among people who value the forest for different reasons will continue to grow. Wisconsin's forests will continue to provide a land base that supports over 10 million users and contributes close to \$10 billion in economic revenue in statewide and local tourism dollars.

## The Strategies

**Forest Legacy Program:** Forest Legacy is a federal program that supports state efforts to protect environmentally sensitive forest lands. The program is designed to encourage the voluntary protection of privately owned forestlands through conservation easements on a "willing seller, willing buyer basis." The USDA Forest Service funds up to 75 percent of the project cost.

Undeveloped forestlands provide clean air and water, fish and wildlife habitat, recreational opportunities, and wood products, all of which benefit people locally, regionally, and nationally. Rapid suburban and second home expansion and growing numbers of people seeking to own a small piece of the rural forest landscape threaten to change the values these lands provide. The Division will utilize the Forest Legacy Program to acquire, or secure lands through conservation easements to protect working forests while expanding recreation opportunities.

## Motorized Forest-Based Recreation:

The Division is working with key partners, including Wisconsin ATV Association (WATVA), Wisconsin County Forests Association (WCFA), and State Parks to develop trail construction standards and best management practices to ensure motorized trails meet sustainable standards that meet both social and environmental needs.

## Recreation Facilities Development and Infrastructure:

Users expect well designed and well made recreation facilities that contribute to their quality experience. These include facilities, roads, signs and awareness of the opportunities. The Department continues to evaluate the need for new recreation amenities during master plan updates and implements development projects using a capital development process focusing on the highest priority public recreation projects, including campground improvements, new trails, etc.

**State Forest Master Plans:** Each State Forest develops a property plan that describes future use and management. Determining future use is very dependant on and more successful with significant involvement from recreation users groups, businesses and local communities.

## The Accomplishments

**Forest Legacy:** Completed the Holy Hills Forest Legacy project which protects properties near Holy Hill in south-eastern Wisconsin. Holy Hill is on the register of National Historic Places and draws over 30,000 visitors per year. The project protects the last vestiges of unbroken forest, extensive wetlands, natural lakes, and a diversity of wildlife in the area. Protection of the Holy Hill woods contributes to the goal of connecting the Northern and Southern Units of the Kettle Moraine State Forest, as well as helping the Ice Age Trail connect a series of trail segments.

## Recreation Opportunities:

The Governor Knowles State Forest equestrian campground was completed and opened to the public. The Division worked in partnership to improve the regional ATV trail system on the Peshtigo River, Black River and Flambeau River State Forests and completed public stakeholder input to evaluate ATV's on the Northern Highland American Legion (NHAL) State Forest. The Division also assisted County Forests in piloting a Light Utility

Vehicle (LUV) trial on County ATV trails to evaluate LUV suitability on existing trail systems.

**Property Plans:** Completed the plan for the Peshtigo River State Forest. Significant progress was made on developing future recreational and management options on Coulee Experimental, Black River and Flambeau River State Forest master plans.

As recreation demand continues to increase, the public debate among people who value the forest for different reasons will continue to grow.





